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constructed on the Area 1 Property by the AMB Property Corporation. The groundwater monitoring results of each sampling event for the nine wells constituting the data set to be used for consideration of potential impacts to indoor air will be used to estimate an upper bounds estimate of the mean concentration (i.e., the upper 95 percent confidence limit on the mean [UCL95]) of trichloroethene (TCE) and vinyl chloride (VC) at a given point in time, specifically, the date of the groundwater monitoring event. The data set used to calculate the UCL95 will consist of monitoring wells: AGW002, AGW053, AGW058, AGW066, AGW067, AGW106, AGW110, AGW112, and a proposed new shallow well that will be located north of the new building (between wells AGW066 and AGW067). If the UCL95 exceeds the action levels set for TCE = 30 ug/l and VC = 99 ug/l, the PLP's will consider whether an individual sample contributing to the UCL95 might be considered an outlier; in this case, indoor air sampling may be deferred until a confirmation sample is collected in the following quarter. If the UCL95 exceeding the action level is found not to be a result of an individual outlier, or if the outlier is confirmed by subsequent sampling, the PLP's will conduct indoor air sampling to determine whether the observed groundwater concentrations do contribute to indoor air concentrations exceeding MTCA Method C cleanup levels for indoor air. For an explanation of how the action levels were derived, refer to Section 2 of this attachment.

Within 30 days of lab reports indicating an exceedence of the action levels for groundwater, the PLP's will submit an Indoor Air Sampling Plan to Ecology that proposes indoor air sampling locations, locations for other media samples (such as ambient air or soil gas, e.g.) to be collected concurrently, sample collection and analysis methodologies, analyte lists, and analyte reporting limit lists, standard operating procedures, data quality assurance/quality control procedures, reporting format, and schedules. The Indoor Air Sampling Plan will be implemented within 20 days of Ecology approval of the plan. If sampling results indicate that vapor intrusion is causing an exceedence of MTCA Method C cleanup levels for indoor air, the PLP's will take actions to reduce vapor intrusion impacts to acceptable levels. Indoor air samples will then be taken again to confirm that the mitigation action was effective.

Section 2.

The groundwater action levels of TCE = 30 ug/l and VC = 99 ug/l were derived by use of the EPA Johnson-Ettinger model spreadsheet (GW-ADV-Feb04.xls, Version 3.1, 02/04). These specific levels correspond to indoor air predictions equal to the MTCA Method C indoor air cleanup levels for TCE and VC when the air exchange rate, Q_{soil} , building dimension, soil type, and other values (indicated below) are utilized as model inputs.

Input to the Johnson-Ettinger Model (JEM)

- Average vapor flow rate into bldg: Q_{soil} is set by the model
- 1 stratum: sand
- Bulk ρ , total porosity, and soil water-filled porosity are JEM defaults for sand.

The following input parameters are modified from GeoEngineers Memorandum, October 5, 2005, using a building height of approximately 10 ft, to accommodate a flexible building design that is anticipated to generally have ceiling heights of 19 ft, or greater, with some lesser areas designated for office space with ceiling heights of approximately 10 ft:

- Average soil/groundwater Temperature: $T_s = 11$
- Depth below grade to bottom of enclosed space floor: $L_F = 15$ centimeters
- Depth below grade to water table: $L_{WT} = 579\text{cm}$ (or 19'). This assumes 15' from water table to grade and then 4' of fill above grade.
- Soil-building pressure differential: $\Delta P = 40$
- Floor length: $L_B = 118\text{m}$ (384')
- Floor width: $W_B = 118\text{ m}$ (384')
- Footprint: = 750,000 ft²
- Space height: $H_B = 305\text{ cm}$ (10')
- Indoor air exchange rate: $ER = 1/\text{hr}$